

REMARKS

Claims 22-52 are pending in this application. This Amendment amends claims 23, 27, 32, 34, 39 and 42-44, and adds claims 48-52.

Applicant thanks Examiner Campbell for the courtesies extended to Applicant's representative during the February 26, 2010, telephone interview. During the interview, Applicant's representative discussed several differences between an exemplary embodiment of the invention and the applied references (Wade and Wermbter et al).

Applicant thanks Examiner Campbell for recognizing allowable subject matter in claim 47. New claims 48-52 are similar to claim 47, but depend from independent claims 32, 34, 39, 41 and 42, respectively. Applicant submits that claims 48-52 are allowable.

The Office Action rejected claim 46 under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. Applicant respectfully traverses the rejection. However, in the interest of expediting prosecution, the specification is amended to obviate the rejection. Support for the amendment to the specification is found in Figure 4.

The Claimed Invention

An exemplary embodiment of the invention, as recited by independent claim 22, is directed to a heating device that is adapted for mounting thereof in a continuous flow heater.

Another exemplary embodiment of the invention, as recited by independent claim 32, is directed to a continuous flow heater including a heat exchanging element that is in direct contact with the fluid and a molded part separate from the heating device and connected positively to the heating device in a pressure-resistant and thermally stable manner to form a fluid chamber, the molded part having at least one inlet and at least one outlet.

Yet another exemplary embodiment of the invention, as recited by independent claim 34, is directed to a method for producing a heating device for fluids, including applying a heating element embodied as an electrical resistance heater to the central area of the heat exchanging element leaving a mounting area, and applying a temperature monitoring device to the mounting

area so that the temperature monitoring device is not influenced by the heating element during operation of the continuous flow heater, and the semi-finished product has a first thermal conductivity in a first direction in which heat is to flow from the heating element to the fluid and a second thermal conductivity in a second direction perpendicular to the first direction, the first thermal conductivity being greater than the second thermal conductivity .

Yet another exemplary embodiment of the invention, as recited by independent claim 39, is directed to a method for producing a continuous flow heater, including producing a heat exchanging element that comes into direct contact with the fluid, producing a molded part separate from the heating device with at least one inlet and at least one outlet, and positively joining the heating device in the molded part so that the assembly is pressure-resistant and thermally stable.

In another exemplary embodiment of the invention, as recited by independent claim 41, is directed to a dishwasher including a mounting area within the central area and a temperature monitoring device mounted within the mounting area so that the temperature monitoring device is not influenced by the heating element during operation of the continuous flow heater.

In another exemplary embodiment of the invention, as recited by independent claim 42, is directed to a dishwasher including a continuous flow heater having a heating device including a heat exchanging element that is in direct contact with the fluid and a molded part separate from the heating device and having at least one inlet and at least one outlet.

Conventional fluid heaters of various designs can be complicated and expensive to manufacture. In addition, conventional heaters can have a certain thermal inertia as a result of their design.

The present invention addresses and solves these problems by providing a heating device that is simple to manufacture and can be connected to a housing to form a fluid heater. Various embodiments of the invention include the features described above.

The Wade Reference

The Office Action rejected claims 22, 32 and 39 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 941,215 to Wade. Applicant respectfully traverses the rejection.

Initially, Applicant respectfully requests that if any of the rejections in the Office Action are maintained, the examiner provide a detailed explanation of the rejection as it applies to each claim, in accordance with 37 CFR 1.104(c)(2) "...When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified." For many of the claims, the Office Action provides no explanation as to what parts of the applied reference correspond to the claim elements, it simply presents the language of each claim with a few reference numbers inserted. Applicant respectfully requests that he be provided an opportunity to respond to a properly explained and detailed rejection. However, in an attempt to advance prosecution of this application, the following comments are made regarding the rejected claims.

The applied reference does not teach or suggest the features of the claimed invention including 1) a heating device that is adapted for mounting thereof in a continuous flow heater (claim 22); 2) a continuous flow heater including a heating device including a heat exchanging element that is in direct contact with the fluid, a molded part separate from the heating device and connected positively to the heating device in a pressure-resistant and thermally stable manner to form a fluid chamber, the molded part having at least one inlet and at least one outlet (claim 32); 3) applying a heating element embodied as an electrical resistance heater to the central area of a heat exchanging element leaving a mounting area, and applying a temperature monitoring device to the mounting area so that the temperature monitoring device is not influenced by the heating element during operation of the continuous flow heater, and the semi-finished product has a first thermal conductivity in a first direction in which heat is to flow from the heating element to the fluid and a second thermal conductivity in a second direction perpendicular to the first direction, the first thermal conductivity being greater than the second thermal conductivity (claim 34); 4) producing a heating device including a heat exchanging element that is in direct contact with the fluid, and producing a molded part separate from the

heating device and with at least one inlet and at least one outlet (claim 39); 5) a dishwasher including a mounting area within the central area and a temperature monitoring device mounted within the mounting area so that the temperature monitoring device is not influenced by the heating element during operation of the continuous flow heater (claim 41); and 6) a dishwasher including a continuous flow heater having a heating device including a heat exchanging element that is in direct contact with the fluid, and a molded part separate from the heating device and having at least one inlet and at least one outlet (claim 42).

In contrast to the invention, Wade merely discloses a heating element attached to a casing that requires an enclosure member that is threaded into the casing. Wade does not disclose any mounting area as claimed.

Regarding claim 22, the Office Action alleges that Wade discloses a heating device for fluids, the heating device being adapted for mounting thereof in a continuous flow heater. Applicants respectfully submit that Wade discloses a heater itself, and not a heating device being adapted for mounting in a heater.

Regarding claims 32 and 39, the Office Action alleges that Wade discloses a molded part connected positively to the heating device in a pressure-resistant and thermally stable manner to form a fluid chamber, the molded part having at least one inlet and at least one outlet. Applicant understands from the February 26 interview that the Examiner is asserting that (a) casing 10 and closure member 22 together correspond to the claimed molded part; (b) resistance 12 corresponds to the claimed heating element; and (c) insulating material 13, 16 and/or 17 correspond to the claimed heat exchanging element.

Applicant initially submits that closure member 22 and casing 10 together cannot be the claimed molded part because they are not one part, they are two separate parts. Second, insulating material 13, 16 and 17 is not in direct contact with the fluid, as required by claims 32 and 39.

Having both an inlet and an outlet on the molded part enables the heating device to be a separate unit that can be removed without removing any pipes or hoses.

In view of the foregoing, Applicant respectfully submits that Wade does not disclose each

and every feature of Claims 22, 32 and 39 and therefore rejection under 35 USC §102(b) is inappropriate. As a result, Applicant respectfully requests withdrawal of the rejection.

The Wade Reference in view of the Wermbter Reference

The Office Action rejected claims 23-31, 34-38 and 40-45 under 35 U.S.C. 103(a) over Wade in view of U.S. Patent Application Publication No. US 2004/0074893 to Wermbter et al. Applicant respectfully traverses the rejection.

Initially, Applicant respectfully requests that if any of the rejections in the Office Action are maintained, the examiner provide a detailed explanation of the rejection as it applies to each claim, in accordance with 37 CFR 1.104(c)(2) "...When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified." For many of the claims, the Office Action provides no explanation as to what parts of the applied reference correspond to the claim elements, it simply presents the language of each claim with a few reference numbers inserted. Applicant respectfully requests that he be provided an opportunity to respond to a properly explained and detailed rejection. However, in an attempt to advance prosecution of this application, the following comments are made regarding the rejected claims.

Regarding claims 23 and 27, neither of the applied references teaches or suggests heating sections that cover the entire central area except for a mounting area for mounting a temperature monitoring device.

Regarding claim 26, neither of the applied references teaches or suggests a temperature monitoring device disposed on the heat exchanging element that is in good heat-conducting connection with the heat exchanging element.

Regarding claim 27, neither of the applied references teaches or suggests a temperature monitoring element disposed in a mounting area adjacent to the heating element.

Regarding claim 28 neither of the applied references teaches or suggests a temperature

monitoring element that is formed by an NTC resistance. The Office Action appears to apply a U.S. Patent Application Publication (Schilling, US 2002/0011480) as teaching that ptc and ntc temperature sensors are known. It is unclear, without further explanation by the examiner: 1) where, if at all, Schilling discloses such sensors, and 2) even if Schilling does disclose such sensors, why it would have been obvious to provide a temperature monitoring element that is formed by an NTC resistance and to provide it on the heat exchanging element as opposed to some other location.

Regarding claim 29, neither of the applied references teaches or suggests the claimed relative thermal conductivity. Applicant notes that the Office Action did not address the amendments made to claim 29 in the previous Amendment.

Regarding claim 34, neither of the applied references teaches or suggests: 1) the claimed relative thermal conductivity of the semi-finished product; 2) applying a heating element to the central area of the heat exchanging element leaving a mounting area; or 3) applying a temperature monitoring device to a mounting area so that the temperature monitoring device is not influenced by the heating element during operation of the continuous flow heater. Applicant notes that the Office Action did not address the amendments made to claim 34 in the previous Amendment.

Regarding claim 35, neither of the applied references teaches or suggests applying a temperature monitoring device directly to the heat exchanging element.

Regarding claim 37, neither of the applied references teaches or suggests the heating element and the temperature monitoring device being applied to the same side of the heat exchanging element.

Regarding claim 38, neither of the applied references teaches or suggests the heating element and the temperature monitoring device together with the contacting device being applied to the outer surface of the heat exchanging element.

Regarding claim 40, neither of the applied references teaches or suggests a sealing ring.

Regarding claim 41, neither of the applied references teaches or suggests 1) providing a mounting area within the central area; or 2) applying a temperature monitoring device to a

mounting area so that the temperature monitoring device is not influenced by the heating element during operation of the continuous flow heater. Applicant notes that the Office Action did not address the amendments made to claim 41 in the previous Amendment.

Regarding claim 42, the Office Action alleges that Wade discloses a molded part connected positively to the heating device in a pressure-resistant and thermally stable manner to form a fluid chamber, the molded part having at least one inlet and at least one outlet. Applicant understands from the February 26 interview that the Examiner is asserting that (a) casing 10 and closure member 22 together correspond to the claimed molded part; (b) resistance 12 corresponds to the claimed heating element; and (c) insulating material 13, 16 and/or 17 correspond to the claimed heat exchanging element. Applicant initially submits that closure member 22 and casing 10 together cannot be the claimed molded part because they are not one part, they are two separate parts. Second, insulating material 13, 16 and 17 is not in direct contact with the fluid, as required by claim 42. Having both an inlet and an outlet on the molded part enables the heating device to be a separate unit that can be removed without removing any pipes or hoses.

In view of the foregoing, Applicant respectfully submits that the combination of Wade and Wermbter does not suggest the features of Claims 23-31, 34-38 and 40-43 and therefore rejection under 35 USC §103(a) is inappropriate. As a result, Applicant respectfully requests withdrawal of the rejection.

New Claims

New claims 48-52 are similar to claim 47, but depend from independent claims 32, 34, 39, 41 and 42, respectively. Applicant submits that claims 48-52 are allowable for at least the same reasons that claim 47 is allowable.

CONCLUSION

In view of the above, entry of the present Amendment and allowance of claims 22-52 are respectfully requested. If the Examiner has any questions regarding this amendment, the Examiner is requested to contact the undersigned. If an extension of time for this paper is required, petition for extension is herewith made.

Respectfully submitted,

/Andre Pallapies/

Andre Pallapies

Registration No. 62,246

March 29, 2010

BSH Home Appliances Corporation
100 Bosch Blvd.
New Bern, NC 28562
Phone: 252-672-7927
Fax: 714-845-2807
andre.pallapies@bshg.com